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Helmuth Eggers

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EXAMINER

FINDLEY, CHRISTOPHER G

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--|--------------------------------------|--|
| Office Action Summary | Application No. 10/807,720 | Applicant(s) EGGERS ET AL. | |
| | Examiner CHRISTOPHER FINDLEY | Art Unit 2621 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/25/2008 have been fully considered but they are not persuasive.
2. Re claims 14, 24, and 27, the Applicant contends that the prior art cited fails to teach or suggest performing a "plausibility" check on incoming sensed images. However, the Examiner respectfully disagrees. Yasui discloses image comparison (Yasui: paragraph [0036]) used for calculating the distance between the vehicle and the edge of a 3D object detected (Yasui: paragraph [0038]), wherein edge data may be emphasized on a resultant display (Yasui: paragraph [0054]) in order to alert the driver of the plausibility of the vehicle colliding with the 3D object (Yasui: paragraph [0038]).
3. Re claims 14, 24, and 27, the Applicant also contends that the prior art cited fails to teach or suggest alerting the driver of an implausible deviation as a result of performing a plausibility check. However, the Examiner respectfully disagrees. Yasui discloses displaying vehicle proximity information on a display in order to alert the driver of the plausibility of the vehicle colliding with the 3D object (Yasui: paragraph [0038]).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14, 16, 18, 19, 26, 27, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasui et al. (EP 1094337 A2).

Re **claim 14**, Yasui discloses a vehicle environment surveillance unit (0) with a plausibility check and operator alert, including a video display (1) (Yasui: Fig. 1, element 30), at least one image sensor (3) for acquisition of environmental information (Yasui: Fig. 1, elements 40 and 50), a computer or processor (2) for processing the acquired environment information into image information and displaying the results on the video display (1) (Yasui: Fig. 1, element 20; paragraph [0026]), an intermediate memory (4) into which the image information is additionally recorded (Yasui: Fig. 2, elements 22, 23; paragraph [0026]), and comparison means for carrying out a plausibility check including an image processing algorithm (5) via which the most recently recorded image is compared with the image information stored in intermediate memory and evaluated for plausibility and triggering a modification of the displayed video image to alert the vehicle operator on detecting an implausible deviation between the most recently recorded image and the image information in the intermediate memory (Yasui: paragraph [0026], distance calculation; paragraph [0054] and Fig. 10B, the display may change according to the calculated distance, thereby warning a driver to the proximity of other cars while parking), wherein, during comparison of the most recently recorded image with the image information in memory, vehicle operating parameters (6) are additionally taken into consideration (Yasui: paragraph [0026], "The CPU 24 uses all of the digital image

data, steering angle data, and the wheel rotation data so as to go through image processing following the program on the RAM 25.”).

Re **claim 16**, the Yasui discloses that the operating parameter (6) is the vehicle speed (Yasui: Fig. 1 and paragraph [0024], the parking assistance system includes a wheel speed sensor 50; paragraph [0026], the CPU 24 uses wheel rotation data to go through the image processing procedure).

Re **claim 18**, Yasui discloses that, in the case of an implausible deviation between the most recently recorded image and the image information in memory, the video image display (1) is automatically switched off (Yasui: page 5, lines 49-51).

Re claim 19, Yasui discloses that, for correction of the displayed video image, a new image is acquired and the newly acquired image replaces the most recently recorded image (Yasui: Fig. 3, images are continually updated when the driver keeps the system in an “on” condition).

Re **claim 19**, Yasui discloses that for correction of the displayed video image a new image is acquired and the newly acquired image replaces the most recently recorded image (Yasui: paragraph [0027], if the driver has not turned off the parking assistance system, the distance calculation and display procedure is repeated until the parking assistance system is turned off).

Re **claim 26**, Yasui discloses that said vehicle environment surveillance system (0) is a system for locating a parking place (Yasui: paragraph [0012], parking assistance).

Claim 27 recites the corresponding method for implementation within the system of claim 14, and, therefore, has been analyzed and rejected with respect to claim 14 above.

Claim 29 has been analyzed and rejected with respect to claim 26 above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui et al. (EP 1094337 A2) in view of Sakiyama et al. (US 6411867 B1).**

Re **claim 15**, Yasui discloses a majority of the features of claim 15, as discussed above in claim 14, but does not explicitly disclose that the operating parameter (6) is a parameter which provides information regarding whether the vehicle is moving forwards or backwards or standing still. However, Sakiyama discloses a vehicle driving support system and steering angle detection device, where the direction of the vehicle is used as an input to the parking assist processor (Sakiyama: Fig. 1, "reverse signal" between elements 8 and 6). Since both Yasui and Sakiyama relate to utilizing external sensing devices to assist a vehicle driver in navigation and object avoidance, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the reverse signal of Sakiyama with the parking assistance system of Yasui in order to

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automatically display the parking assist program when the system detects a parking situation (Sakiyama: Fig. 3; column 11, lines 1-15). The combined system of Yasui and Sakiyama has all of the features of claim 15.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui et al. (EP 1094337 A2) in view of Ikeda (US 6734787 B2).

Re **claim 17**, Yasui discloses a majority of the features of claim 17, as discussed above in claim 14, but does not specifically disclose that, in the case of an implausible deviation between the most recently recorded image and the image information in memory, an error message is displayed on the video display (1). However, Ikeda discloses a method of recognizing a vehicle traveling behind, where when another vehicle detected (deviation from a normal surrounding), an indicator is given on the display (Ikeda: column 5, lines 50-55 and 61-67). Since both Yasui and Ikeda relate to monitoring the external environment of a vehicle and displaying corresponding information for the driver inside the vehicle, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the relative speed and vehicle type calculation capability of Ikeda with the parking assist system of Yasui in order to allow the driver to avoid impeding emergency vehicles (Ikeda: column 1, lines 36-41). The system of Yasui, implemented in conjunction with the method of Ikeda, has all of the features of claim 17.

6. Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui et al. (EP 1094337 A2) in view of Gunderson et al. (US 20060119473 A1).

Re **claim 20**, Yasui discloses a majority of the features of claim 20, as discussed above in claim 14, but does not specifically disclose that in the case that a re-initiation of the image recording is no longer possible, an error message is displayed on the video image display (1). However, Gunderson discloses a system of avoiding collisions, where an error message is displayed on the operator interface in the event of a catastrophic failure (Gunderson: paragraph [0084]). Since both Yasui and Gunderson relate to monitoring the external environment of a vehicle with sensor devices, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the built-in-testing (BIT) of Gunderson with the parking assist system of Yasui in order to ensure the integrity of the data being processed by the system (Gunderson: paragraph [0084]). The combined system of Yasui and Gunderson has all of the features of claim 20.

Re **claim 21**, Yasui discloses a majority of the features of claim 21, as discussed above in claim 14, but does not specifically disclose that in the case that a re-initiation of the image display is no longer possible, the video image display (1) is automatically switched off. However, Gunderson discloses a system of avoiding collisions, wherein the system halts in the event of a catastrophic error (Gunderson: paragraph [0084]). Since both Yasui and Gunderson relate to monitoring the external environment of a vehicle with sensor devices, one of ordinary skill in the art at the time of the invention

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would have found it obvious to combine the built-in-testing (BIT) of Gunderson with the parking assist system of Yasui in order to ensure the integrity of the data being processed by the system (Gunderson: paragraph [0084]).

Re **claim 22**, Yasui discloses a majority of the features of claim 22, as discussed above in claim14, but does not specifically disclose that the vehicle operator is informed regarding an impermissible deviation between the most recently recorded image and the image information in memory by a means independently of the video image display (1), which independent means is in communication with the vehicle environment surveillance unit (0). However, Gunderson discloses a system of avoiding collisions, wherein the system may present a set of tones to the driver as an alert (Gunderson: paragraph [0076]). Since both Yasui and Gunderson relate to monitoring the external environment of a vehicle with sensor devices, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the built-in-testing (BIT) of Gunderson with the parking assist system of Yasui in order to ensure the integrity of the data being processed by the system (Gunderson: paragraph [0084]).

Re **claim 23**, Yasui discloses a majority of the features of claim 22, as discussed above in claim14, but does not specifically disclose that an optical display means is used as the warning means (7) providing optical signals for informing the vehicle operator. However, Gunderson discloses a system of avoiding collisions, wherein an additional display may be used (Gunderson: paragraph [0067]). Since both Yasui and Gunderson relate to monitoring the external environment of a vehicle with sensor devices, one of ordinary skill in the art at the time of the invention would have found it

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obvious to combine the built-in-testing (BIT) of Gunderson with the parking assist system of Yasui in order to ensure the integrity of the data being processed by the system (Gunderson: paragraph [0084]).

Re **claim 24**, Yasui discloses a vehicle environment surveillance unit (0) with a plausibility check and operator alert, including a video display (1) (Yasui: Fig. 1, element 30), at least one image sensor (3) for acquisition of environmental information (Yasui: Fig. 1, elements 40 and 50), a computer or processor (2) for processing the acquired environment information into image information and displaying the results on the video display (1) (Yasui: Fig. 1, element 20; paragraph [0026]), an intermediate memory (4) into which the image information is additionally recorded (Yasui: Fig. 2, elements 22, 23; paragraph [0026]), and comparison means for carrying out a plausibility check including an image processing algorithm (5) via which the most recently recorded image is compared with the image information stored in intermediate memory and evaluated for plausibility and triggering a modification of the displayed video image to alert the vehicle operator on detecting an implausible deviation between the most recently recorded image and the image information in the intermediate memory (Yasui: paragraph [0026], distance calculation; paragraph [0054] and Fig. 10B, the display may change according to the calculated distance, thereby warning a driver to the proximity of other cars while parking), wherein, during comparison of the most recently recorded image with the image information in memory, vehicle operating parameters (6) are additionally taken into consideration (Yasui: paragraph [0026], "The CPU 24 uses all of the digital image

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data, steering angle data, and the wheel rotation data so as to go through image processing following the program on the RAM 25.”).

Yasui does not specifically disclose that acoustic signals are provided to alert the vehicle operator upon detecting an implausible deviation between the most recently recorded image and the image information in the intermediate memory. However, Gunderson discloses a system of avoiding collisions, wherein the system may present a set of tones to the driver as an alert (Gunderson: paragraph [0076]). Since both Yasui and Gunderson relate to monitoring the external environment of a vehicle with sensor devices, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the built-in-testing (BIT) of Gunderson with the parking assist system of Yasui in order to ensure the integrity of the data being processed by the system (Gunderson: paragraph [0084]). The combined system of Yasui and Gunderson has all of the features of claim 24.

7. Claims 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui et al. (EP 1094337 A2) in view of Shisgal et al. (US 5574426 A).

Re **claim 25**, Yasui discloses a majority of the features of claim 25, as discussed above in claim 14, but does not specifically disclose that the vehicle environment surveillance system (0) is a night vision system. However, Shisgal discloses an obstacle detection system for vehicles moving in reverse, where the sensors mounted on the vehicle may be optical infrared detectors (Shisgal: column 3, lines 4-24 and column 9, lines 53-56). Since both Yasui and Shisgal relate to monitoring the external

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environment of a vehicle with sensor devices, one of ordinary skill in the art at the time of the invention would have found it obvious to combine the clustered sensors of Shisgal with the parking assist system of Yasui in order to limit the number and size of "dead areas" in the monitoring system (Shisgal: column 3, lines 39-46). The combined system of Yasui and Shisgal has all of the features of claim 25.

Claim 28 has been analyzed and rejected with respect to claim 25 above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Vehicle surveillance system

Kim (US 20020113876 A1)

b. Automatic parking device for automobile

Shyu et al. (US 4931930 A)

c. Driving separation distance indicator

Schofield (US 20040012488 A1)

d. Motor vehicle obstacle monitoring system using optical flow processing

Nakajima et al. (US 5521633 A)

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER FINDLEY whose telephone number is

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(571)270-1199. The examiner can normally be reached on Monday through Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marsha D. Banks-Harold/ SPE Art Unit 2621
/Christopher Findley/